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**The West Bengal University of Health Sciences**  
**MBBS 2nd Professional Examination (New Regulation) March - April 2023**

Subject : Microbiology

Full Marks : 100

Paper : I

Time : 3 hours

*Attempt all questions. The figures in the margin indicate full marks*

1. a) A 9 year old girl is admitted in the pediatric ward with history of fever not touching the baseline and is increasing gradually over the past 6 days. She was having pain in abdomen, loss of appetite and general weakness. On examination, she was found to have a temperature of 101°F, pallor, coated tongue, mild splenomegaly and abdominal tenderness. 1-2+8+2+2
- What is the clinical condition?
  - What are the likely bacterial agents involved?
  - How will you establish the etiological diagnosis in the laboratory?
  - Outline the treatment guideline in this case.
  - Can you prevent such infection?
- b) A male patient from Bihar attended OPD with fever, anemia and huge enlarged spleen for last 6 months. He is also having blackish discoloration of the skin. 2-2+6+5
- What is the most probable diagnosis and what is the vector?
  - Which protozoa is responsible for this?
  - Describe the immunopathogenesis of the disease.
  - How will you diagnose the case in the laboratory?
2. a) i) How will you collect the sample for the laboratory confirmation of B.T. Malaria. 4+6  
ii) Discuss with labeled diagram of any one form of parasite, present in this condition.
- b) Describe cold sterilization. Give examples. Mention five commonly used disinfectants and their recommended concentration. 5+5
- c) Briefly describe the mechanism of anaphylaxis. Enumerate the chemical mediators released in such reactions with their significant roles. 5+5
3. Write short notes on : 5+5
- Type II Hypersensitivity.
  - Importance of properly labeled sample and adequate information in requisition form.
4. Explain the following statements: 5 x 4
- Clinical manifestations of acute rheumatic fever develop after 3 weeks following streptococcal sore throat.
  - A knowledge about endemic titre is important to interpret the result of Widal Test.
  - For lab diagnosis of dengue, duration of fever has got immense importance.
  - All morphological forms of *P. falciparum* are not usually detected in peripheral blood smear.
  - Ascariasis can lead to development of acute abdomen. 10 x 1
5. Choose the correct option for each of the following:
- Which strategy is followed for the diagnosis of HIV infection in an asymptomatic individual:
    - Strategy I.
    - Strategy II A.
    - Strategy II B.
    - Strategy III.

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- b) *Cryptococcus neoformans* is a
- Dimorphic fungus.
  - True yeast.
  - Yeast like fungus.
  - Mould.
- c) All are antigen presenting cell except:
- Dendritic cell.
  - B lymphocyte.
  - Macrophage.
  - Cytotoxic T lymphocyte.
- d) Influenza virus contains the following antigens:
- Haemagglutinin.
  - Neuraminidase.
  - M protein.
  - All of the above.
- e) Which one is incorrect statement in relation to mutual drug resistance:
- Resistance to one drug at a time.
  - Low degree of resistance.
  - Resistance is not transferable to other organism.
  - Resistance cannot be prevented by combination of drugs.
- f) All of the following are examples of device associated infection (DAI) except:
- VAP
  - SSI.
  - CRBSI.
  - CAUTI.
- g) All of the following are examples of agglutination reaction except:
- Paul Bunnell test.
  - Weil-Felix reaction.
  - Widal test.
  - Kahn test.
- h) All of the following are examples of transport media except:
- Cary Blair media.
  - Venkatraman - Ramakrishnan media.
  - Thioglycollate broth.
  - Autoclaved sea water.
- i) Polar flagella is found in following bacteria:
- Salmonella*.
  - Staphylococcus*.
  - Pseudomonas*.
  - Brucella*.
- j) Selective media for *Pseudomonas* is:
- Cetrimide agar.
  - MYP agar.
  - Mannitol salt agar.
  - XLD agar.